

CON499: APPLICATION FOR A RESOURCE CONSENT UNDER THE RESOURCE MANAGEMENT ACT 1991

If you need help in filling out this form please contact our Customer Services staff on (03) 353 9007 or toll free on (0800 324 636. They will be able to provide some general assistance.

Email the completed application to: ecinfo@ecan.govt.nz
Or send to Environment Canterbury, PO Box 345, Christchurch 8140

Information

Section 88 of the Resource Management Act 1991 specifies the requirements for applications for resource consents, and requires that each application includes a description of the activity, a planning assessment, and an assessment of the actual and potential effects of the activity on the environment, amongst other things. We recommend you read [Section 88](#) and [Schedule 4](#) of the RMA prior to completing this form.

Completing all the questions in this application form in full:

- May satisfy the requirements of the Resource Management Act 1991 for an application for resource consent. Environment Canterbury will inform you if further information is required.
- Will assist with the prompt processing of your application. Any omissions in this form may result in your application being returned (under Section 88(3) of the RMA) and may result in additional costs while the required information is obtained.

Charges

Your application must be accompanied with the deposit charge specified in the "Summary of Resource Consent Charges" or at <http://ecan.govt.nz/advice/resource-consents/applying-resource-consent/Pages/resource-consent-processing.aspx>. The deposit may not cover all charges related to the auditing of the application. The applicant may be invoiced for additional charges. If an application is declined, all charges must still be paid.

All accounts are payable by the 20th day of the month following the date of invoice. If the account is not paid within 30 days after the due date, our debt collection agent may charge you a fee equal to 25% of the unpaid portion of the account, but no less than \$25.00. Where the total debt collection costs, legal and other costs arising from the collection of any amount owing exceeds the debt collection fee charged, our debt collection agent is also entitled to recover such additional costs. All Environment Canterbury charges must be met by the applicant. This may include time spent discussing issues with the applicant and any other parties involved in the process.

| | |
|--|---------------------------------------|
| Name of person/company/organisation that is paying the deposit | Nelson Ranger Fishing Company Limited |
| Method of payment: cheque/internet banking/paid in person at Environment Canterbury office | Cheque |
| Date payment is made | 23 May 2018 |
| Payment reference e.g. applicant name | |

FOR OFFICE USE ONLY

| | |
|-----------------|--|
| EC - RMCP | |
| FILE REF: | |
| DOCUMENT No.: | |
| 31 MAY 2018 | |
| Receipt number: | |

Charges paid:

CRC:

When you have completed this form

To submit your application and the relevant fixed charge or deposit, you need to either email it to ecinfo@ecan.govt.nz, or send it to: **Environment Canterbury, PO Box 345, Christchurch 8140.**

1 APPLICATION DETAILS

Please complete all questions and sign and date the form.

1.1 Applicant(s) details

| | | | |
|--|---------------------------------------|------------------------|----|
| Surname: | | First names (in full): | Mr |
| Surname: | | First names (in full): | Mr |
| OR Registered Company name and number: | Nelson Ranger Fishing Company Limited | | |
| Postal address: | | Postcode: | |
| Billing address (if different): | | Postcode: | |
| Phone (home): | | Phone (work): | |
| Cell phone: | | Email address: | |
| Contact person: | Simon Acton-Adams | | |

Are you an Environment Canterbury staff member, an Environment Canterbury Commissioner, or a family member of either?

☐ Yes ☒ No

1.2 Consultant/Agents details (if applicable)

| | | | |
|-----------------|----------------------|-------------|----------------------------|
| Contact person: | David Clark | Company: | Wisheart Macnab & Partners |
| Postal address: | PO Box 138. Blenheim | Postcode: | 7240 |
| Phone (work): | 03 578 7269 | Cell phone: | |
| Email address: | david@wmp.co.nz | | |

1.2.1 During the processing of your application who will be the contact person for making decisions? ☐ Applicant ☒ Consultant / Agent

Note: All correspondence during the consent application process will be directed to this contact person, unless instructed otherwise. Final decision documents will be sent to the applicant.

1.2.2 Who will be the contact person for compliance monitoring matters? ☒ Applicant ☐ Consultant / Agent

1.3 Names and addresses of the owner and occupier of the site to which this application relates

(You only need to include this information if it is **different** to that of the applicant(s). If you do not own the land to which this application relates to, you will need to provide written approval from the land owner or they may be considered an affected party.)

| | | | |
|-----------------|---------------------|-----------|--|
| Owner: | Crown Land - seabed | Phone: | |
| Postal address: | | Postcode: | |
| Occupier: | | Phone: | |
| Postal address: | | Postcode: | |

1.4 Location of the proposed activity

Site address: **Big Bay Banks Peninsula**

Locality
(City/District):

Map reference
NZTM:

Area of property
(ha):

Legal
description:

Note: The legal description can be found on the certificate of title, valuation notice, subdivision plan or rate demand for the site. Please include a copy of one of these with your application.

1.5 Consents from local authorities

1.5.1 Under which territorial authority is the land situated:

- | | | | |
|---|---------------------------------------|---|-------------------------------------|
| <input type="checkbox"/> Ashburton DC | <input type="checkbox"/> Kaikōura DC | <input type="checkbox"/> Timaru DC | <input type="checkbox"/> Waitaki DC |
| <input checked="" type="checkbox"/> Christchurch CC | <input type="checkbox"/> Mackenzie DC | <input type="checkbox"/> Waimakariri DC | |
| <input type="checkbox"/> Hurunui DC | <input type="checkbox"/> Selwyn DC | <input type="checkbox"/> Waimate DC | |

1.5.2 Do you require consent from the local authority for this proposal?

☐ Yes ☒ No

Note: You may need to consult with the relevant local authority to determine this.

1.5.3 **If yes**, please list:

1.5.4 If a consent is required from the District or City Council, have you applied for it?

☐ Yes ☐ No

1.5.5 **If yes**, what is the consent number and status?

1.5.6 Please list any permitted activities under the District or City Plan that are part of the proposal to which the application relates.

1.6 Current or previous consents

1.6.1 Do you hold or have you held any previous consents at this site for this activity or any related activities?

☒ Yes ☐ No

1.6.2 List any other consents required from the Canterbury Regional Council and indicate whether they have been applied for:

1.6.3 Is this application for a:

☒ New activity ☐ Existing Activity
☐ Change of conditions for an existing consent

1.6.4 If it is a change of conditions to an existing consent, please supply the consent reference number(s) or consent holder's name (if different from current applicant's name) and which conditions you wish to change:

2 PRE-APPLICATION ADVICE

2.1 Have you received any advice from Environment Canterbury prior to lodging this application?

☐ Yes ☒ No

2.2 If yes, please list the pre-application number if known:

E.g. RMA165897. This number should be provided to you by the Consents Planner or Customer Services.

2.3 Please list any pre-application meetings or advice (verbal and/or written) you have had with Environment Canterbury below:

| Type of advice | Brief details, including who provided the advice and the date |
|---|---|
| <input type="checkbox"/> Meeting(s) | |
| <input type="checkbox"/> Verbal advice | |
| <input type="checkbox"/> Written advice | |
| <input type="checkbox"/> Other (e.g. submitted draft application / AEE) | |

3 DESCRIPTION OF THE PROPOSAL

Please describe fully the proposal for which consent(s) are being sought. Include details of activities associated with the proposal to which this application relates. Attach additional information as necessary – for example plans, diagrams etc. that will help to describe the activity.

This is an application to extend existing coastal permit CRC 175499 to include an area of 2.306 ha in Menzies Bau. A further and more detailed description of the activity is included in the Schedule 4 information attached.

4 LEGAL AND PLANNING MATTERS

4.1 What type(s) of resource consent(s) are you applying for?

☒ Coastal Permit (s12 of the RMA 1991)

- | | | | |
|---|--|---|---|
| <input type="checkbox"/> Reclaim or drain foreshore or seabed | <input checked="" type="checkbox"/> Place, alter or remove structure | <input checked="" type="checkbox"/> Disturb foreshore or seabed | <input checked="" type="checkbox"/> Deposit substance |
| <input type="checkbox"/> Planting foreshore or seabed | <input checked="" type="checkbox"/> Occupy coastal marine area | <input type="checkbox"/> Remove natural material (eg sand) | <input type="checkbox"/> Use water |
| <input type="checkbox"/> Take surface water | <input type="checkbox"/> Dam water | <input type="checkbox"/> Divert water | <input type="checkbox"/> Discharge contaminant to air |
| <input checked="" type="checkbox"/> Discharge contaminant or water to water | <input type="checkbox"/> Discharge contaminant to land | <input type="checkbox"/> Other | |

☐ Land Use Consent

- | | | | |
|---|--|--|--|
| <input type="checkbox"/> s9 of the RMA 1991 | <input type="checkbox"/> s13 of the RMA 1991 | | |
| <input type="checkbox"/> Contaminant storage | <input type="checkbox"/> High country burning | <input type="checkbox"/> Earthworks | <input type="checkbox"/> Vegetation clearance |
| <input type="checkbox"/> Activity in coastal hazards zone | <input type="checkbox"/> Fencing/grazing in waterway | <input type="checkbox"/> Planting in waterway | <input type="checkbox"/> Use, place, alter or remove structure in waterway |
| <input type="checkbox"/> Disturb bed of waterway (incl. excavation of gravel) | <input type="checkbox"/> Deposit substance in waterway | <input type="checkbox"/> Reclaim or drain waterway | <input type="checkbox"/> Place a structure within 8 metres of a waterway |
| <input type="checkbox"/> Excavation of land | <input type="checkbox"/> Other | | |

☐ Water Permit (s14 of the RMA)

- | | | | |
|---|---|------------------------------------|---------------------------------------|
| <input type="checkbox"/> Take groundwater | <input type="checkbox"/> Take surface water | <input type="checkbox"/> Dam water | <input type="checkbox"/> Divert water |
| <input type="checkbox"/> Use water | | | |

☐ Discharge Permit (s15 of the RMA)

- | | | |
|---|--|--|
| <input type="checkbox"/> Discharge contaminant to air | <input type="checkbox"/> Discharge contaminant or water to water | <input type="checkbox"/> Discharge contaminant to land |
|---|--|--|

4.2 Please classify the proposal against the relevant rule(s) in the relevant regional plan

4.2.1 Which regional plan does this activity fall under?

RCEP

4.2.2 Please list the relevant rule(s) of this plan:

4.2.3 What is the status of this activity?

☐ Permitted

☐ Controlled

☐ Restricted discretionary

☒ Discretionary

☐ Non-complying

4.3 Please provide a full assessment of the proposal against the above rule(s), including an assessment against each condition of the rule(s)

[See attached](#)

4.4 If you consider part of the proposal is a permitted activity, please provide a full assessment against the conditions of that rule (how do you comply with each condition?).

4.5 Please provide an assessment of the proposal against any relevant objectives, policies or other provisions of any National Policy Statements, Coastal Policy Statements, National Environmental Standards, the Canterbury Regional Policy Statement, Iwi Management Plan, and any other relevant plan or proposed plan.

[See attached](#)

4.6 The purpose of the Resource Management Act (1991) is to promote the sustainable management of natural and physical resources. Does your proposal meet the requirements of Part 2, Section 5 (view [here](#))?

☒ Yes

☐ No

PRINCIPLES

4.7 Matters of National Importance (section 6 - view [here](#))

Do you consider your proposed activity takes into account the Matters of National Importance?

☒ Yes

☐ No

4.8 Other Matters (section 7 – view [here](#))

Do you consider your proposed activity takes into account Other Matters?

☒ Yes

☐ No

4.9 Treaty of Waitangi (section 8 – view [here](#))

Do you consider your proposed activity take into account the principles of the Treaty of Waitangi?

☒ Yes

☐ No

4.10 Please provide an assessment of the proposal against any relevant objectives, policies or other provisions of any National Policy Statements, Coastal Policy Statements, National Environmental Standards, the Canterbury Regional Policy Statement, Iwi Management Plan, and any other relevant plan or proposed plan.

[See attached.](#)

5 CONSULTATION AND WRITTEN APPROVAL OF AFFECTED PERSONS

Consultation with all persons potentially affected by your activity prior to lodging your application may result in considerable time and cost savings.

Ngāi Tahu in Canterbury

Te Rūnanga o Ngāi Tahu is the statutory authority representing iwi members and includes ten local rūnanga within Canterbury, known as Papatipu Rūnanga. 'Papatipu' refers to ancestral land. Local rūnanga have the status of mana whenua with kaitiaki status (guardianship) over land and water within their takiwā (territory).

Depending on where the activity is to occur within Canterbury, the values of one or more Papatipu Rūnanga may be affected. Iwi interests as a whole may also be affected where an activity is to occur within, adjacent to, or affecting an area recognised in the Ngāi Tahu Claims Settlement Act 1998 as a Statutory Acknowledgement area. In those circumstances, Te Rūnanga o Ngāi Tahu will be involved in management of the area.

For more detail on Ngāi Tahu and assistance with answering the question below, please refer to the booklet titled [Ngai Tahu in the Resource Consent Process](#) which is also available from our Customer Services Section. You may also find our webpage [Engaging with Ngai Tahu](#) useful.

Have you consulted with the Papatipu Rūnanga and/or Te Rūnanga o Ngāi Tahu? ☐ Yes ☐ No

If 'Yes', please state who you have consulted with and attach any evidence of your consultation, including any written approvals for this application:

Note: Ngāi Tahu as an iwi, and specifically Papatipu Rūnanga representing mana whenua, are considered an affected party where effects on cultural values are minor or more than minor, in accordance with Section 95E of the RMA. Environment Canterbury MUST notify an application if the adverse effects of your proposed activity on cultural values are determined to be minor or more than minor unless you have obtained the written approval of Papatipu Rūnanga and/or Ngai Tahu for your proposal. Consultation before lodging your application is one of the best ways of identifying adverse effects.

Non-notified applications

Non-notified consents are for activities which have minor adverse effects on the environment. For your activity to be considered on a non-notified basis you must determine whether there are any persons potentially affected by your proposed activity and if there are, you must consult them and obtain their written approval (e.g., Iwi, Fish and Game Council, Department of Conservation, Owners of nearby structures/infrastructure (e.g. NZTA), Other consent holders, Neighbouring land owners and occupiers,. If you are unsure who may be an affected party, please call us. Non-notified consents are significantly cheaper and quicker to process.

Limited notified and fully notified applications

Notified consents (either limited notified or fully notified consents) are for activities which do not meet requirements in the RMA for processing on a non-notified basis.

If your assessment of effects has shown that adverse effects on the environment are likely to be more than minor and/or there are people who may be adversely affected from whom you are unable to obtain written approval, you may wish to request that your application be publicly notified. This will avoid possible delays in the processing of your application.

The final decision to notify or not notify an application will still be made by Environment Canterbury.

Please note that an application cannot be notified unless there is sufficient information for the notice that makes it clear what is being applied for, and how it might affect the environment (including people).

I request that my application is notified. ☐ (check box)

Please provide any consultation details and written approvals obtained in the space provided below.

☐ Yes ☐ No

8.2 Start date

Note: Resource consents lapse five years after their commencement date unless the consent has been given effect to or an application is made to Environment Canterbury to extend this period prior to the lapse date.

8.2.1 When do you propose to start the activity?

(date/month/year)

8.3 Additional notes to applicants

- Your application must be publicly notified unless Environment Canterbury is satisfied that the adverse effects on the environment will be minor and written approval has been obtained from every person Environment Canterbury considers may be adversely affected by the granting of your application (unless Environment Canterbury considers it unreasonable to require the obtaining of every such approval).
- Section 128 of the Resource Management Act 1991 sets out the circumstances in which Environment Canterbury may review the conditions of a resource consent. Under Section 128(c) Environment Canterbury may undertake a review at any time if the application contained any inaccuracies which materially influenced the decision made.
- **The information you provide with your application, which includes all associated reports and attachments, is official information. It will be used to process your application and, together with other official information, assist in the management of the region's natural and physical resources. Access to information held by Environment Canterbury is administered in accordance with the Local Government Official Information and Meetings Act 1987, and Privacy Act 1993. Your information may be disclosed in accordance with the terms of these Acts. Public access is also provided to consent information via Environment Canterbury's website. *Environment Canterbury may withhold access to information in certain circumstances. It is therefore important you advise Environment Canterbury about any concern you may have about disclosure of any of the information, which includes all associated reports and attachments, you have provided in this application (e.g. protection of personal information, trade secrets, commercially sensitive material, information which, if released, may cause serious offence to tikanga Maori, or any other information you consider should not be disclosed. While Environment Canterbury may still have to disclose information under the above legislation, it can take into account any concern you wish to raise.***

Please describe any concerns here:

8.4 Errors and omissions

When you receive your Resource Consent Documents please check that the details are correct. You have a 15 working day period after the decision is notified to allow you to object or advise of errors or omissions without cost.

9 APPLICANT SIGNATURE AND DATE

I/we **have read** all of the information on this application form and I understand all of the notes and that I am liable to pay all actual and reasonable charges relating to the processing of this application.

I/we **also understand** that if the application is granted, I will be liable to pay all actual and reasonable charges related to compliance monitoring of the consent.

Signature of ~~applicant~~

Date

Full name of person signing – please print

~~or~~ **Duly Authorised Person**

Signature of **applicant**

Date

Full name of person signing – please print

or Duly Authorised Person

Note: Environment Canterbury must have written authorisation to process your consent application. Both the consultant (if used) and the applicant must sign this section.

- Where there are multiple people applying for consent, all persons must sign this form.
- If a company is the applicant, at least one director must sign this form.
- Anyone else who is applying for consent on behalf of another person, group of people or a company (e.g. a manager applying on behalf of a company) can sign this form and submit the application. However, written authorisation from the persons or company on behalf of which the consent is being applied for must be supplied with this application.

10 CONSULTANT SIGNATURE AND DATE

Signature of ~~consultant~~

Date

Full name of person signing – please print

CHECKLIST

Please ensure you:

- ☒ Complete all parts of this application form.
- ☒ Include an assessment of effects of the activity on the environment, set out in Section 6 of this application form.
- ☒ Include a site plan.
- ☒ Include a copy of the certificate of title, rates demand, subdivision plan or valuation notice for the site your application relates to.
- ☒ Sign and date this application form (both applicant and consultant if one is used).
- ☒ Include the appropriate charge as set out in the "Summary of Resource Consent charges".

Consider consulting local Rūnanga:

☐ If your proposed activity occurs:

- (a) Within a statutory acknowledgement area
- (b) Within a silent file area
- (c) Close to a site of cultural significance, or
- (d) Otherwise affects a site of cultural significance.

11 LOCATION PLAN

Please complete this plan showing the site with the location of the proposed activity and indicate any relevant identifying features such as buildings, roads, rivers, etc. or other relevant details, or alternatively, attach a plan or map to this consent application. <http://canterburymaps.govt.nz/> is a good tool to utilise when applying for a resource consent.





Topomap 50 Sheet: BX25

Base Topographical Data sourced
from Land Information New Zealand Data.
Crown Copyright Reserved.

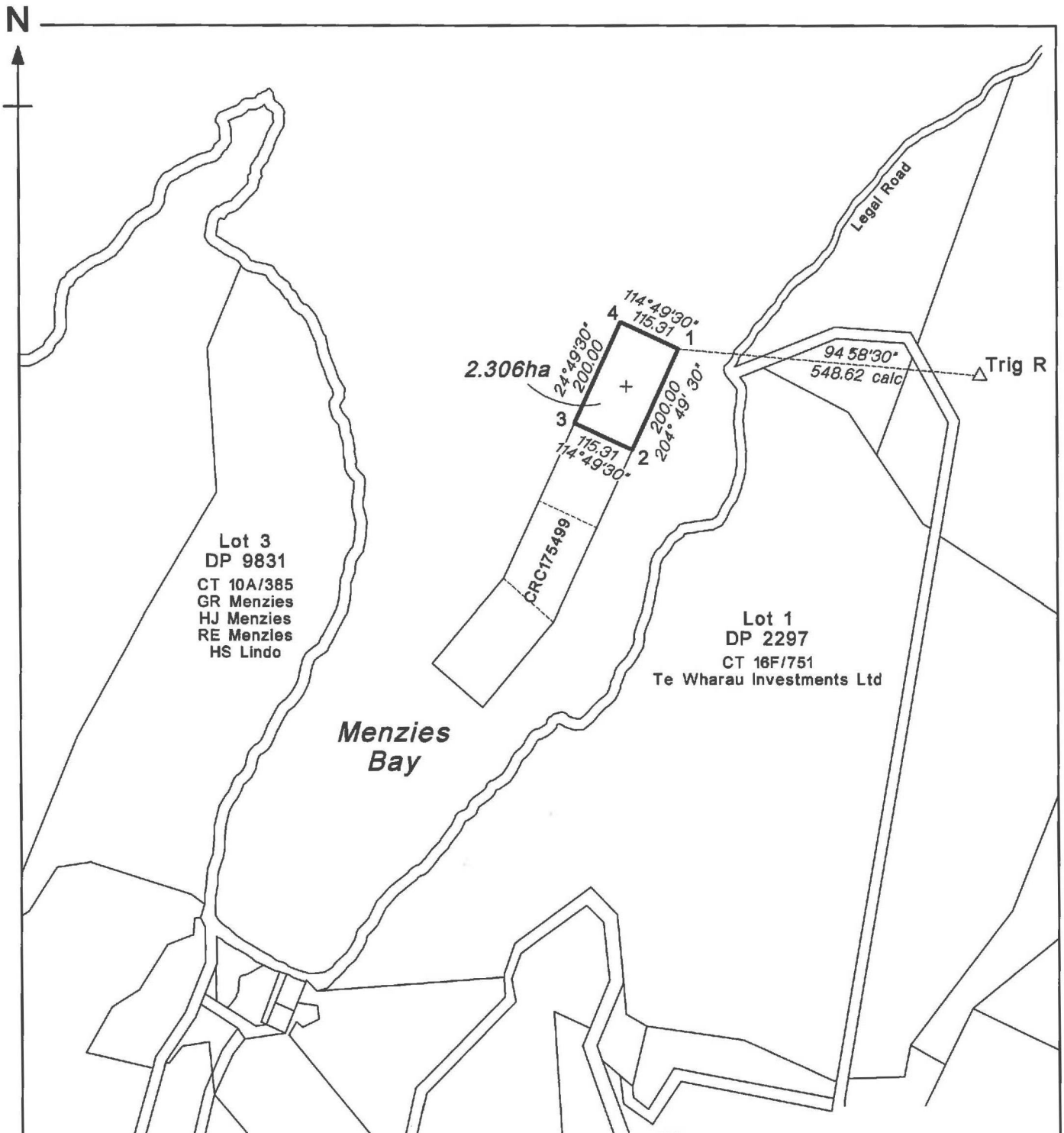
Locality Map

Extension of Marine Farm CRC175499
Menzies Bay, Banks Peninsula

DPL
Draughting Plus Limited

Prepared
28 March 2018

Scale 1:50,000
500 0 500 1000 1500 2000 2500 3000 3500 Meters



NOTE:
 The position of this application has not been surveyed.
 Coastline from Land Information NZ Cadastral Data

SCHEDULE OF COORDINATES

Datum: NZTM2000

| Point | East | North |
|----------|------------|------------|
| 1 | 1597545.76 | 5168299.12 |
| 2 | 1597461.79 | 5168117.60 |
| 3 | 1597357.14 | 5168166.02 |
| 4 | 1597441.11 | 5168347.54 |
| Centroid | 1597451.45 | 5168232.57 |
| Trig R | 1598092.32 | 5168251.55 |

Proposed Coastal Permit Extension to CRC175499

Nelson Ranger Fishing Co Ltd

BANKS PENINSULA DISTRICT

SCALE 1:10,000

200 0 100 200 300 400 500 600 700 m

Datum: NZTM 2000

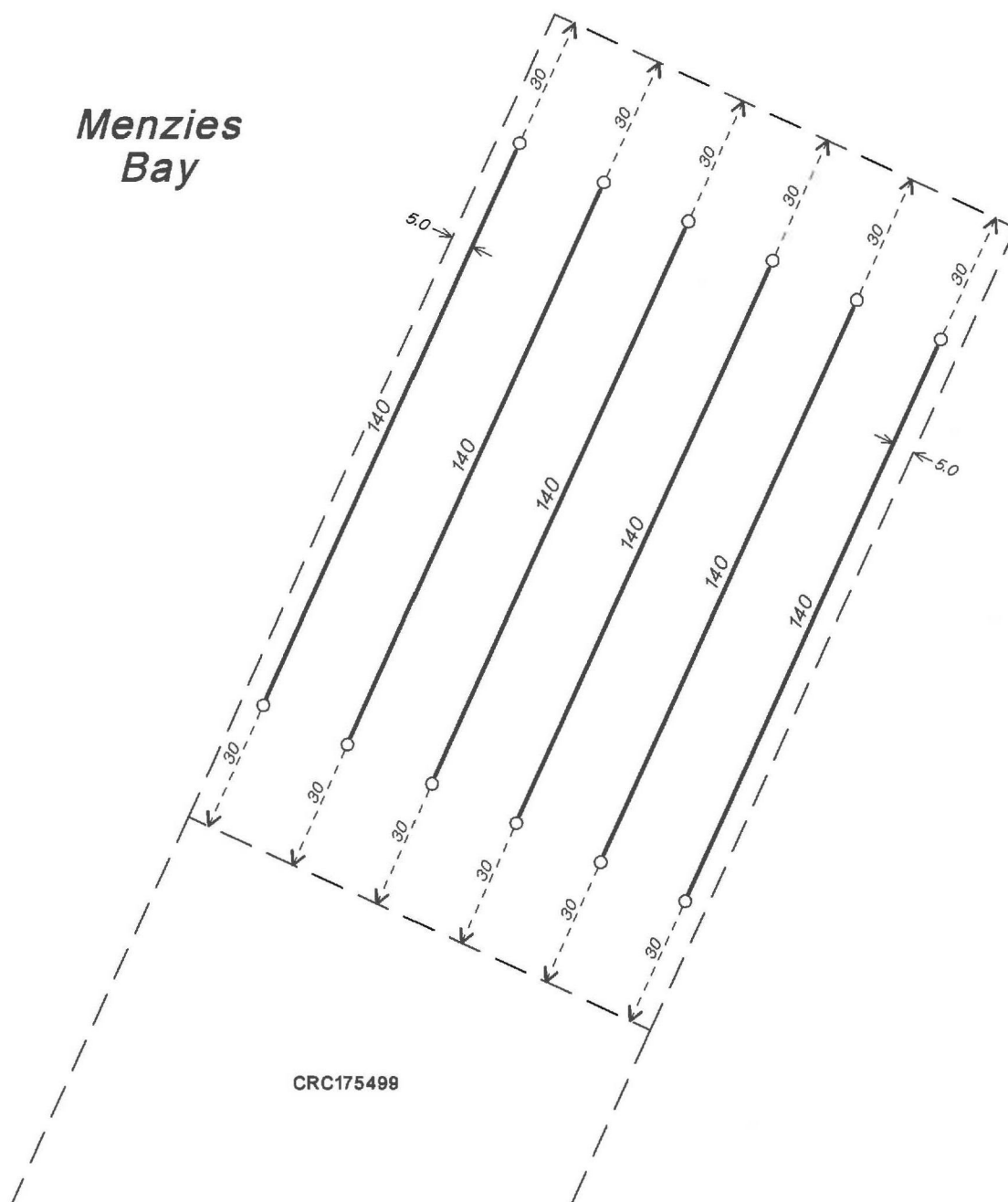
Prepared by;

DRAUGHTING PLUS LTD

Date 29/05/18

MF_2520b.gxd

Menzies Bay



CRC175499

REFERENCE

- Orange Float
- < Anchor
- Backbone
- - - Anchor Warp

NOTE

Total Longlines = 6
 Backbone Length = 140m
 Total Backbone Length = 840m
 Longline Spacing = 21m
 Warp Surface Loss = 30m

Layout Details **Extension to Marine Farm CRC175499** **Menzies Bay**

SCALE 1:1,500



Prepared by
 DRAUGHTING PLUS LTD
 Date: 19 March 2018

MF_2520a

RESOURCE MANAGEMENT ACT 1991

Schedule 4

Information required in application for resource consent

1. Information required in all applications

- (1) An application for resource consent for an activity ("the activity") must include the following:

(a) *A description of the activity:*

To undertake the activity of marine farming for the purposes of growing greenshell mussels (*perna canaliculus*) and blue mussels (*mytilus galloprovincialis*) and sponges (*Lissodendoryx spp*) (including the occupation of part of the Coastal Marine Area, any necessary disturbance of the sea bed, any necessary erection and placement of structures and the incidental deposition of shell material and other natural material as a consequence of operating the marine farm.

This is an application to extend CRC175499 to include an area of 2.306 hectares as shown on the plans accompanying the application.

The existing permit (CRC175499) expires on 14 February 2033.

Coastal Permits Required

The Application is for Coastal Permits to authorise:

- (a) The occupation of part of the Coastal Marine Area ("CMA").
- (b) Any necessary erection and placement of structures.
- (c) Any necessary disturbance of the seabed.
- (d) The incidental deposition of shell material and other natural material as a consequence of operating the marine farm.

The location, permit area, all structures that are intended to be used are all set out in:

- The Locality Map – **Attachment 1.**
 - The Structures Layout Details -**Attachment 2.**
 - The Area Plan – **Attachment 3.**
- (Copies of these are attached.)

In addition to the above, attached is a copy of the *Benthic Survey for an extension to a mussel in Menzies Bay, Banks Peninsula*, NIWA December 2017.

The Applicant

The Applicant is Nelson Ranger Fishing Company Limited which was incorporated on 22 September 1997. The principal of the company is Simon Acton-Adams (a marine farmer with more than 30 years experience).

Through another company (Pigeon Bay Aquaculture Limited) he established the first mussel farm on Banks Peninsula in Pigeon Bay dating from 1997.

History of Marine Farming at Subject Site

In June 1992 a marine farming licence (MFL 352) was issued for 6 hectares for farming mussels in Menzies Bay under the Marine Farming Act 1971. That was in favour of Alastair Menzies. That area was in the southern part of the bay. In 1994 the licence was varied to allow for farming of *Lissodendoryx spp* in addition to mussels.

Little mussel farming actually took place at the subject site, particularly in the early years. It was in shallow water and a combination of the wave action and the shallow water meant marine farming there was restricted.

In 2004 Te Wharau Investments Limited acquired the licence from Alastair Menzies.

In 2006 the licence was deemed to become a coastal permit under the RMA. Accordingly, resource consent CRC 063161 was issued in 2008 (bringing the control of the farm under the RMA). Water space within the farm was developed from 2005 onwards.

In 2012 Te Wharau Investments Limited effectively moved the farm in a northerly direction and widened the gap to the eastern shoreline. This was granted permission under CRC122028). The current applicant (Nelson Ranger Fishing Company Limited) originally leased the site and then acquired the coastal permit in 2017. Subsequently a new permit was issued (CRC 175499).

The original marine farming licence dating back to the 1990's showed an area for extension although this did not come through to CRC 063161 or CRC 122028.

The Proposal

The applicant proposes to install 6 new long lines to the north of the existing northern block of CRC 175499 as shown on the attached plans.

The applicant seeks permission to farm the same species as the current consent enables which are:

- Green shelled mussels (*Perna canaliculus*),
- Blue shelled mussels (*Mytilus galloprovincialis*),
- Sponge (*Lissodendoryx spp*).

Greenshell mussels are being farmed on the farm at present.

The layout of the extension will be by traditional methods, the same as the existing farm. That is the anchoring system will be by way of screw anchors to the sea bed

attaching traditional back bone lines supported by black buoys with orange marker buoys at the end of each line.

(b) A description of the site at which the activity is to occur:

The proposed extension lies within Menzies Bay. Menzies Bay is on the north side of Banks Peninsula lying between Pigeon Bay (to the west) and Little Akaloa Bay (and Decanter Bay) to the east. Menzies Bay is approximately 1.75km deep being measured from a line drawn between the two heads (Otohuao Head on the east) and the unnamed point on the west. The sea surface area of the bay (inside the points) is approximately 103 hectares.

The mouth to the bay is open to the north and is approximately 1.3 kilometres in width.

The sides of the bay are steep, rising to ridgelines either side of approximately 130 – 200 metres above sea level.

The head of the bay has an area of approximately five hectares of flat land. There is a stream which enters the head of the bay (Menzies Stream).

There are three houses at the head of the bay and there is a cottage on the ridgeline to the northeast of the proposed extension. It is unlikely that that cottage has a view of the extension area. As to the houses at the head of the bay, two of them would have a view of the extension area. But it is a distant view (more than a kilometre) and the view is across the existing marine farm already occurring in the bay. The new lines are proposed to be in the same layout and position relative to the shore as the existing 3 blocks of lines. The view from the houses is down the lines. The extension will therefore only have a modest change to the existing view.

The bay is surrounded by pastoral farming. To the west and at the head of the bay the land is owned by the Menzies family and the land to the east is owned and farmed by Te Wharau Investments Limited (Paddy Cotter). The respective parcels of land are shown on **Attachment 3**.

There is a road into the bay (Menzies Bay Road) which is accessed from Little Akaloa.

The history of marine farming in Menzies Bay has been set out above. In the wider context there are marine farms in Pigeon Bay, Port Levy, near Beacon Rock, at Big Bay, at Scrubby Bay, and Squally Bay.

Marine farming is a well established industry on Banks Peninsula. The mussel farming however is confined to the northern part of the Peninsula.

(c) The full name and address of each owner:

The seabed is Crown land. The only occupant at present in the adjoining area is the Applicant under the existing resource consents to the south.

The adjoining land owners are:

- Te Wharau Investments Limited C/- Rose & Associates Ltd, 114 Memorial Avenue,

Christchurch 8053.

- The Menzies Family c/o Pegasus Bay Marine Farm Limited, Menzies Bay, RD3 Akaroa 7583

See title information **Attachment 3**.

- (d) *A description of other activities that are part of the proposal to which the application relates:*

Not applicable.

- (e) *A description of any other resource consents required:*

Not applicable.

- (f) *An assessment of the activities against matters set out in Part 2:*

Section 5 – Purpose

The Application does achieve the overarching purpose of the RMA in that it enables the provision of social economic and cultural wellbeing while achieving sustainable management of resources, safe guarding the life supporting capacity of water and avoiding remedying or mitigating adverse effects of the activity on the environment.

Section 6 – Matters of National Importance

The proposal represents a modest increase to the existing marine farming already occurring in Menzies Bay. The natural character of the coastal marine area will be preserved and protected from inappropriate use and development.

There are no identified outstanding natural features and landscapes at the subject site.

There is no significant indigenous vegetation or significant habitat of indigenous fauna at the subject site other than being generally a marine mammal sanctuary. This matter will be dealt with separately later in this document.

The marine farm does not exclude public access. People in vessels can enter into and tie up to the structures within the marine farm. As marine farming has become more understood and accepted by the boating public skippers are aware that they can utilise the area. The extension is along the same side of the bay as the existing marine farm. Vessels can navigate safely into and out of the bay. The extension will not restrict or hinder use of the bay by vessels. In any event Menzies Bay does not have a dedicated public launching ramp for launching or retrieving vessels. Any vessel from the bay has to be launched from the beach. Menzies Bay is accessible from other bays in good weather conditions. But in the Applicants experience from marine farming in the bay it is not a destination for vessels or a place in which boating activity occurs with any frequency.

The process in originally applying for consent for the existing farm did not identify any particular wahi tapu or other taonga that would be adversely affected by the marine farm.

There is no known historic or heritage place at or near the subject site which needs protection.

As fishing can still occur within the site and around the site, protected customary rights are not seen to be affected.

Section 7 – Other Matters

Only those matters in section 7 that are relevant are addressed in this assessment. The proposal consists of the farming of a native species of shellfish which is found in the area. There is nothing added to the water column and the shellfish rely solely on nutrients in the water column. The activity is an efficient use and development of natural and physical resources. The activity is existing within the bay and has been carried out at the site for a number of years. The activity has been subject to rigorous monitoring which has not lead to any concerns being identified. Amenity values will not be diminished by granting consent to the extension. None of the intrinsic values of the ecosystems that are present at the subject site will be adversely affected and the quality of the environment will not be diminished. While nutrients in the water column are a finite resource, in the assessment of NIWA set out in the reports attached hereto the activity is both sustainable and will not deplete nutrients in anything more than in a minor way.

Section 8 – the Treaty of Waitangi

The allocation of water space for aquaculture in the CMA and Crown obligations under the Treaty are dealt with by Fisheries legislation.

(2) Assessment under (1)(g)

Aquaculture in some of the bays on Banks Peninsula is an excluded activity. However, there is no such exclusion which applies to Menzies Bay.

Status of the Activity under the Regional Coastal Environment Plan for the Canterbury Region (RCEP)

The activity consists of the occupation of the CMA by the installation of the 6 new longlines in conjunction with neighbouring marine farming. The activity also provides for placement of the marine farming structures and any disturbance of the sea bed if during the term of the coastal permit there needs to be replacement of structures. There is also the deposition of shell material and other natural material from the operation of the marine farm.

As far as occupation is concerned, given that public access is not actually excluded and the area of the marine farm is not greater than 50 hectares, the applicable rule in the RCEP is rule 8.23 which makes occupation a *discretionary* activity.

As indicated above there are proposed to be six new longlines created. Erection of structures is a *discretionary* activity under Rule 8.2 of the RCEP.

Disturbance of the seabed necessary for the erection of the new structures (and from time to time replacement of existing structures) is a *discretionary activity* under Rule 8.7.

Overall Status of Activity

Given that the proposed activities are *discretionary* as described above, then as a result of the necessary bundling of the activities then the overall assessment of the activity is required to be made as a *discretionary* activity under s.104B RMA.

(a) Any relevant Objectives, Policies or Rules

The relevant Rules of the RCEP have been referred to in the immediately preceding paragraph. This paragraph examines the policies and objectives of the RCEP as they relate to the proposal. The relevant objectives and policies are to be found at 8.2 Issue Resolution RCEP.

Objective 8.1

This object is to enable the use of the CMA provided that conflicts between users, peoples wellbeing, health and safety and amenity and natural character are preserved. For the reasons given above, the proposal does not offend this objective.

Policy 8.1

This relates to *permitted* activities and is not relevant.

Policy 8.2

This policy simply provides the framework for regulation of activities in the CMA.

Policy 8.3

This policy sets out to protect and preserve natural character. This is not being undermined by the proposal. The policy also sets out to protect characteristics of special value to Tangata whenua, to preserve public use and enjoyment of the coast including public access to and along the CMA and to preserve open space amenity of the coast. None of these matters are adversely affected. As to the imperative to consider cumulative effects, the nearest other marine farming is at Scrubby Bay (to the west) and Squally Bay (to the east), both of which are removed some distance from the existing marine farming. Those farms are offshore farms and are not contained within a bay. There is no adjoining land administered by the Department of Conservation and the adjoining land is already in agricultural use. The application does fall within a marine mammal sanctuary. That issue is addressed later in this document.

Lastly the proposal will not affect any dynamic coastal processes and it will not adversely affect any natural feature. There is no existing network utility infrastructure at or near the subject site.

Policy 8.4

This policy relates to reclamation and is not relevant.

Policy 8.5

This policy addresses occupation. Turning to the matters particularly to be considered under the policy, there is no recognised anchorage or navigational channel in, through or near the subject site. As far as public recreational use is concerned, that is not excluded. As noted above the Bay is little used for recreational purposes by the public. Public use of the water area tends to focus on Pigeon Bay and Little Akaloa. The proposal is not within a designated Port Operational Area. During the previous process

of application and granting of consent no particular cultural historic scenic amenity Tangata Whenua or natural value of the area was identified. As to the natural character of the coastal environment both within and outside the immediate location, only a modest increase in occupation is sought over and above that which has already been granted permission.

Because this is an existing site at which marine farming has occurred for a number of years, consideration of an alternative site is not considered appropriate. The Applicant is choosing this site because the activity is already occurring there. As it is already occurring there, the natural character of the area is not being further compromised to anything other than a very small degree.

A term to coincide with the existing consent is considered to be a reasonable period of occupation which will meet the purposes for which occupation is sought.

Policy 8.6

This policy relates to a future coastal occupation charging regime.

Policy 8.7

This policy is an imperative to prevent activities which have potential to have a significant or irreversible adverse effect on natural or cultural values of an Area of Significant Natural Value or on the natural cultural values of areas of the coastal environment adjacent to an ASNV. There is no ASNV at the subject site or nearby.

Policy 8.8

This policy relates to the Ports of Lyttleton and Timaru and is not relevant.

Policy 8.9

Again, this policy relates to the Ports of Lyttleton and Timaru.

Policy 8.10

This policy relates to various specified areas of the CMA, none of which relate to the subject site.

Policy 8.11

This policy relates to structures in the CMA not being used for habitation or overnight accommodation. That does not apply to the proposed activity.

Policy 8.12

This relates to unauthorised or unutilised resource consents. That does not apply to the current proposal.

Policy 8.13

This relates to boatsheds and swing moorings which are not relevant.

Policy 8.14

This relates to coastal protection works which are not relevant.

Policy 8.15

This refers to areas of Banks Peninsula listed in Schedule 5.13 and the ASNV's. The proposal is not caught by this policy.

Given that the RCEP sets out to protect the whole series of particular bays on Banks Peninsula, that there is no such protection sought for Menzies Bay is a relevant matter in determining the application.

Canterbury Regional Policy Statement

Issue 8.1.5 – Provision of Appropriate Access

This issue is there to ensure that access to and along the CMA is preserved. For the reasons given above, that issue is not unduly affected by the proposal. Furthermore, any explanation to this issue, it is said:

“There must also be access to and along the CMA for commercial purposes such as for ... aquaculture ...”

Objective 8.1.6 – Adverse Effects of Human Activities on the Water Quality of the CMA

That is not directly relevant here because the proposed activity does not cause point or non-point discharges of contaminants entering the CMA. However in the explanation of the issue it is said:

“Contaminants ... can cause adverse effects on marine life ... and on commercial undertakings such as ... aquaculture.”

Objective 8.2.1

This objective relates to development of coastal strategies.

Objective 8.2.2

This objective is directed to providing a framework for appropriate occupation, use and development of the CMA while managing the effects of those activities. Aquaculture in the sense of marine farming can only occur in CMA. It is an appropriate activity at the subject site and the adverse effects of it at the site are no more than minor.

Objective 8.2.3

This objective is enabling a regionally significant infrastructure and other commercial maritime activities, one of which is expressly referred to as aquaculture. The CRPS is recording that aquaculture in the CMA is appropriate and needs to be supported.

Objective 8.2.4 – Preservation, Protection and Enhancement of the Coastal Environment

This objective is directed to preserving natural character from inappropriate use and development and seeing that various named values are restored or enhanced. Marine farming at the subject site is an appropriate activity and there is nothing in this objective which is contrary to what is the proposed activity.

Objective 8.2.5 – Provision of Access

Again, access to and along the CMA is not undermined by the proposed activity in anything other than the inconvenience of a slight adjustment in course to the west of the existing marine farm. Access to Menzies Bay is not restricted by the proposed extension. But the farm is not on or near a recognised navigational route in any event.

Objective 8.2.6 – Protection and Improvement of Coastal Water

Again, this is directed towards quality of coastal water. A marine farm by its very nature needs high quality water. The harvested product must be fit for human consumption.

Objective 8.3.1- Improving Understanding of the Coastal Environment

This policy is about improving knowledge and understanding of the CMA.

Objective 8.3.2 – Providing Integration of Management

This policy relates to management of the coastal environment.

Policy 8.3.3 – Management of Activities in the Coastal Environment

This policy is about enabling a framework for the use and occupation of the CMA while avoiding, or where that is not practicable, remedying and mitigating adverse effects. None of the stipulated adverse effects will be anything more than minor and therefore the policy is met because it is “enabling”.

Policy 8.3.4 – Preservation of Natural Character of the Coastal Environment

This policy is directed at protecting outstanding natural features of landscapes, protecting indigenous ecosystems, promoting natural character, in particular where there are coastal land forms and landscapes that are significant, representative or unique, avoiding new development adjacent to coastal marine area that will compromise areas of high natural character. The subject site is not an outstanding natural feature, nor is it an outstanding natural landscape. There is no indigenous ecosystem which is going to be put at peril by the proposal. The coastal land forms and landscapes are not adversely affected. Natural character will not be compromised. In particular under this policy the CRPS says:

“Natural character and the values associated with that natural character ... provide opportunities for commercial activities such as tourism, aquaculture, energy and fishing.”

Policy 8.3.5 – Maintenance and Enhancement of Public and Ngai Tahu Access

The proposal does not unduly interfere with either of these matters.

Policy 8.3.6 – Regionally Significant Infrastructure

This policy is not relevant.

Policy 8.3.7 – Improve Water Quality in Degraded Areas

This policy is not relevant.

Policy 8.3.8 - Discharge of Contaminants to Coastal Water that is a Natural State

This policy is not relevant.

Policy 8.3.9 – Direct Discharge of Sewerage into the Coastal Marine Area

This policy is not relevant.

New Zealand Coastal Policy Statement 2010

This is a higher level document which generally seeks to enable activities in the coastal environment while ensuring that the effects of those activities are avoided or mitigated and seeks out to preserve and restore natural character, to protect natural features and natural landscape, to protect historic heritage, public open space, to protect water quality, monitor sedimentation, to restrict the discharge of contaminants, to identify coastal hazards and restrict activity in relation to the coastal hazard risk. None of these matters are anticipated to be intended to be restricted by the current proposal.

Specifically, there is now a policy (Policy 8) in relation to aquaculture which requires that the “significant, existing and potential contribution of aquaculture to the social economic and cultural wellbeing of the people and communities be recognised by making provision for aquaculture in regional coastal plans”. Given that aquaculture at the subject site is a *discretionary* activity, this policy is met.

(b) Any relevant requirements, conditions or permissions in any Rules in a document.

The relevant rules in chapter 8 of the RCEP have been identified above. In relation to *discretionary* activities, the RCEP does not provide any express requirements, conditions or permissions.

(c) Any other relevant requirements in a document (for example, in a national environmental standard or other regulations)

There are no other documents that need to be referred to.

The Assessment of the Activities Effects on the Environment is provided separately and later in this document.

2. Additional Information required in some applications

The application is not directly affected by section 1652H(1)(c).

Nevertheless, the Applicant has invested a substantial sum of money in the existing long lines at the subject site.

In broad terms, the investment in the existing farm is as follows:

- Anchors
- Longlines
- Crop

Assessment of Environmental Effects

3. Information Required in Assessment of Environmental Effects

- (1) An assessment of the activity's effects on the environment must include the following information:
 - (a) *If it is likely that the activity will result in any significant adverse effect on the environment, a description of any possible alternative locations or methods for undertaking the activity.*

The grant of consent to allow a modest extension to the existing marine farming in the bay will not lead to any significant adverse effect on the environment and therefore a consideration of any possible alternative locations or methods for undertaking the activity is not necessary.

- (b) *An assessment of the actual or potential effect on the environment of the activity.*

Various potential effects are examined in the subsequent paragraph, both adverse and positive.

Marine Mammals

There is no documented record of marine mammal entanglement in a marine farm on or about Banks Peninsula. Marine mammals are not physically excluded from the subject site. Banks Peninsula has a resident population of Hector's dolphins and is subject to a Marine Mammal Sanctuary under the Marine Mammals Protection Act 1978. A preliminary report was provided by Martin Cawthron (30 May 2002) during the approval process for the Ocean Marine Farm's application at Scrubby Bay to the west. That report noted that the Ocean Marine site was in an area where densities of dolphins were lowest around Banks Peninsula. By analogy that equally applies to the subject site. Prior to commencement of erection of the Ocean Marine marine farm at Scrubby Bay, a base line survey and subsequent logging of Hector's dolphin activity in the area was required. The observations of those reports have been provided to Council. Recorded sightings of Hector's dolphins in the immediate area were rare. That tends to confirm that the subject site is not a valuable part of their habitat and continued occupation of it by a marine farm is not going to have an adverse effect on the dolphins or their habitat.

Sea Birds

There is now a body of literature which indicates that seabirds are not excluded from mussel farms and indeed find the mussel buoy a useful place for a temporary roost. Bird droppings on mussel buoys are a constant reminder of their use for that purpose. In the Marlborough Sounds, even the rare (and timid) King Shag finds mussel buoys a useful resting place while foraging, and a place free of predators. Dr Chris Challies made an assessment of the potential effect of the proposal on seabirds when the Ocean Marine Farm application at Scrubby Bay was lodged (report dated 13 December 2000). His conclusion was that a farm at the subject site was unlikely to have a significant effect on the wellbeing of any seabird species currently using the area. There is no evidence during the course of the existence of the marine farm that there is any concern relating to an adverse effect on seabirds.

Navigation

The existing marine farm is not on a recognised navigation route, nor near a recognised mooring area. It has a lighting plan which enables it to be seen at night by approaching vessels. It is not in an area where there is regular boating activity. The modest extension to the marine farm will not create any navigational risk at the subject site nor will it unduly inconvenience the boating public. No problems have arisen since the farm was installed.

Public Access

The public is not physically excluded from utilising the CMA where the marine farm is. Recreationalists can enter the farm without fear of adverse consequences. The recreational public is now much more educated about these matters and do these days have concerns over access.

Fishing

Similarly the existing marine farm does not actually exclude fishing and a recreational fisher can tie up to the structures during the activity of fishing.

It is not considered by the Applicant that any commercial fishing operation is adversely affected by the existing marine farm or will be by the proposed extension.

Recreational Activity

There is no recognised recreational activity occurring at the subject site such that it will be adversely affected. This site is relatively exposed and there are ample opportunities nearby for water based recreational activities to occur in protected areas.

Visual effects and Amenity Values

The public does not have easy access from land to the subject site. The adjoining land is in private hands. The land immediately adjoining the extension is a steep bluff. The public is able to access the site by sea but visual effects at sea level are restricted to proximity to the farm. At sea level, anything over 1.25 km has no visual effect. Of the houses that are in and adjoin Menzies Bay, as noted above, the cottage on the ridgeline above the proposed extension is unlikely to have a view of the extension area. Two of the houses at the head of the bay will have a view of the extension area. The view is at a distance of approximately one kilometre but on the other side of the existing marine farming. The extension of the six lines will have a modest effect on that view but certainly no more than a minor effect. The extension will be seen in the context of the continuation of the existing activity.

Landscape

There is no outstanding natural feature or outstanding natural landscape in the immediate area. The proposed activity is not of a scale or at a location which adversely affects the landscape or character of Banks Peninsula. The original proposal for the existing farm was subjected to scrutiny in relation to landscape and amenity values. There has been very little change at the subject site since that time. The extension of the six lines will not have anything other than minor effect on Landscape.

Benthic Effects

This matter is separately addressed by the report of NIWA. There is nothing in that report which raises any concerns. That report is able to draw upon the comparison with the two earlier surveys of the subject site. Reports were produced at the time of the

original application. So the information (both as a baseline) and during the course of the first term is well documented.

Nutrient Depletion

The addition of six lines in the context of the bay is not likely to have any effect on nutrient depletion other than in a minor way.

Coastal Processes

There is no evidence of any measurable effect of the existing farm on coastal processes. It is separated from the shore and has only localised effects of a minimal nature on current.

Biosecurity

The Applicant is a member of the mussel industry ECOP. Compliance with the ECOP is designed to minimise biosecurity risks. It is in the farmers interests to ensure that a high standard is maintained.

Anchoring

The anchoring systems that are proposed for the extension are suitable for the subject site. They are being used in the existing farm and also at the more exposed sites at Squally Bay and Scrubby Bay.

Cultural Values

The area is of significance to Ngai Tahu. That is recognised by the RCEP.

There was consultation with Ngai Tahu at the time of the original application and during the approval process of the RCEP. There was further consultation during the recent application. In the circumstances the Applicant does not believe that there will be more than a minor cultural impact. In addition, once lodged with Ecan, the Applicant will undertake further consultation with Iwi relating to the application for extension.

Noise

Human activity at this site only occurs during installation, maintenance and harvest. Most of the time there is no human presence at the site. There is no noise in the absence of human presence. During the human presence there can be mechanical noise. However that noise is confined to the area of the vessel undertaking the installation, maintenance or harvest. Human presence on the land that adjoins the subject site is infrequent. In the context of the existing farm any noise effects from the extension would be minor and indistinguishable.

Cumulative Effects

There is a significant distance between the adjoining marine farms at Scrubby Bay and Squally Bay. in Pigeon Bay and the adjoining marine farm in Squally Bay. The existing farm is made up of three blocks of six lines each. The extension of 6 lines will appear as a structure adjacent to those lines and consistent with it. No cumulative effect of any measurable nature has been determined to occur by the installation of the extension by the Applicant.

Positive Effects

There is no doubt that having a marine farm at the subject site has positive economic effects. The harvested product off the farm is supplied to Talleys Group Limited and other processors. The product is mainly exported and provides foreign exchange. The

existing marine farm in conjunction with the other marine farms in the wider group provides employment opportunities for those maintaining the farms and harvesting the product of the farm together with those that process the product from the farms. The effects of the activity are less than minor and there is a significant positive effect from continuing to allow the existing marine farm at the subject site.

- (c) *If the activity includes the use of hazardous substances and installations in assessment of any risks to the environment that are likely to arise from such use:*

Not applicable.

- (d) *If the activity includes the discharge of any contaminant a description of the nature of the discharge, the sensitivity of the receiving environment and any possible alternative methods of discharge.*

Not applicable.

- (e) *A description of the mitigation measures (including safeguards and contingency plans where relevant) to be undertaken to help prevent or reduce the actual or potential effect.*

Not applicable.

- (f) *An identification of those persons interested in or affected by the proposal, the consultation undertaken, and any response to the views of those consulted.*

Contemporaneously with the lodging of this application the adjoining land owners and Iwi are being consulted.

- (g) *If the the scale or significance of the activity's effect are such that monitoring is required, a description of how, once the proposal is approved, effects will be monitored and by whom.*

Not applicable.

- (h) *If the activity will or is likely to have adverse effects that are more than minor on the exercise of a protected customary right, a description of possible alternative locations or methods for the exercise of the activity.*

Not applicable.

- (2) *Requirement to include information in the assessment of environmental effects is subject to the provisions of any policy statement or plan.*

See above.

4. Matters that must be Addressed by an Assessment of Environmental Effects

- (1) An assessment of the activity's effects on the environment must address the following matters:

- (a) *Any effect on those in the neighbourhood and, where relevant, the wider community, including any social, economic, or cultural effects:*

This is an application for an extension of an ongoing activity. It is not considered that anybody will suffer any identified adverse effect that is more than minor or one which those persons are not already exposed to and used to.

- (b) *Any physical effect on the locality, including any landscape and visual effects:*

This has been examined above.

- (c) *Any effect on ecosystems, including effects on plants or animals and any physical disturbance of habitats in the vicinity:*

This aspect has been examined above.

- (d) *Any effect on natural and physical resources having aesthetic, recreational, scientific, historical, spiritual, or cultural value, or other special value, for present or future generations:*

There is no particular aesthetic, recreational, scientific, historical, spiritual or cultural value or special value of the subject site such that the effect of the ongoing presence of the marine farm at the subject site has been examined.

- (e) *Any discharge of contaminants into the environment, including any unreasonable emission of noise, and options for the treatment and disposal of contaminants:*

Not applicable.

- (f) *Any risk to the neighbourhood, the wider community, or the environment through natural hazards or the use of hazardous substances or hazardous installations:*

Not applicable.

- (2) The requirement to address a matter in the assessment of environment effects is subject to the provisions of any policy statement or plan.

This has been addressed above.

Conditions

There is an existing suite of conditions which apply to the existing consent.

Those conditions should equally apply to the extension area to achieve consistency and uniformity.

n:\wmp\djc\doc\nelson ranger fishing co-applicaton for resource consent schedule 4.docx

Benthic survey for an extension to a mussel farm in Menzies Bay, Banks Peninsula

Prepared for Nelson Ranger Fishing Ltd

December 2017

Prepared by:
Dr Stephen Brown

For any information regarding this report please contact:

Stephen Brown
Marine Ecologist

National Institute of Water & Atmospheric Research Ltd
PO Box 893
Nelson 7040

Phone +64 3 548 1715

NIWA CLIENT REPORT No: 2017359NE
Report date: December 2017
NIWA Project: NRF17401

| Quality Assurance Statement | | |
|-----------------------------|--------------------------|--------------|
| | Reviewed by: | Sean Handley |
| | Formatting checked by: | Jenny McLean |
| | Approved for release by: | Helen Rouse |

© All rights reserved. This publication may not be reproduced or copied in any form without the permission of the copyright owner(s). Such permission is only to be given in accordance with the terms of the client's contract with NIWA. This copyright extends to all forms of copying and any storage of material in any kind of information retrieval system.

Whilst NIWA has used all reasonable endeavours to ensure that the information contained in this document is accurate, NIWA does not give any express or implied warranty as to the completeness of the information contained herein, or that it will be suitable for any purpose(s) other than those specifically contemplated during the Project or agreed by NIWA and the Client.

Contents

| | |
|--|-----------|
| Executive summary | 4 |
| 1 Introduction | 5 |
| 2 Methods..... | 5 |
| 2.1 Substratum and sediment | 5 |
| 2.2 Faunal assemblages | 7 |
| 3 Results | 8 |
| 3.1 Seabed substratum and sediment..... | 8 |
| 3.2 Sediment grain size | 9 |
| 3.3 Benthic species assemblage | 10 |
| 4 Discussion | 12 |
| 5 Acknowledgements | 13 |
| 6 References..... | 14 |
| Appendix A Infauna taxa and abundance | 15 |

Tables

| | | |
|------------|--|----|
| Table 3-1: | Abundances of large-bodied epifauna in each sled sample. | 11 |
|------------|--|----|

Figures

| | | |
|-------------|--|----|
| Figure 2-1: | Site map showing sample locations. . | 6 |
| Figure 3-1: | Detail of sidescan sonar images showing relatively featureless seabed in the vicinity of the extension site. | 8 |
| Figure 3-2: | Sediment samples from each grab station. | 9 |
| Figure 3-3: | Percentage of each sediment grain size fraction in samples from each station. | 9 |
| Figure 3-4: | Number of infaunal taxa (taxonomic richness) at each grab station. | 10 |
| Figure 3-5: | Density of infaunal individuals at each grab station. | 11 |

Executive summary

Nelson Ranger Fishing Ltd. (NRF) engaged NIWA to conduct a benthic survey as part of an application to extend the consent boundaries of their existing mussel farm at Menzies Bay (coastal permit CRC122028), Banks Peninsula. NRF are seeking to increase the area of the farm from ~6.18 ha to ~8.47 ha. The survey was designed to describe the seabed features within and adjacent to the proposed extension area, to inform Environment Canterbury in assessing the suitability of the site.

The survey comprised side-scan swath mapping to detect any three-dimensional features of significance, and grab sampling and benthic sled sampling to ground-truth the side-scan images and to describe the sediment characteristics and biotic communities in the vicinity of the proposed extension.

The side-scan swath mapping did not detect any prominent three-dimensional features. Grab sampling confirmed that the soft sediment substratum was comprised of sand and mud, and the appearance and smell of the sediment did not indicate any excessive organic enrichment.

The infaunal assemblages (animals living within the sediment) were typical of the soft sediment habitat in embayments on the northeastern side of Banks Peninsula and epifaunal taxa (animals living on the surface of the sediment) were also common and widespread.

No features of special conservation, scientific, or ecological value were found on the seabed in the vicinity of the proposed extension. The effects on the benthos from the proposed farm extension will be some deposition of mussel faeces and pseudofaeces, accumulation on the seabed of mussels and other organisms dropping from the mussel longlines, and some changes to the epifaunal species assemblages. The effects of deposition are likely to be moderated and dispersed to some extent by currents and wave energy, particularly as a result of periodic weather events that can effect semi-exposed embayments on the northeastern side of Banks Peninsula (Hadfield 2012, pers. obs. author, pers. obs. Sam Helps (skipper of MV St. George)). Thus the ecological effects of extending the mussel farm into the proposed area are likely to be no more than minor.

1 Introduction

Nelson Ranger Fishing Ltd. (NRF) engaged NIWA to conduct a benthic survey as supporting information for an application to extend the consent boundaries of an existing mussel farm at Menzies Bay (coastal permit CRC122028), Banks Peninsula. NRF are seeking to increase the area of the farm by ~2.29 ha from the existing ~6.18 ha to ~8.47 ha. The survey was designed to describe the seabed features within and adjacent to the proposed extension area, to aid Environment Canterbury in assessing the suitability of the site. The survey comprised side-scan swath mapping to detect any three-dimensional features of significance on the seabed such as reefs, other hard substratum or three-dimensional biogenic habitat, and grab sampling and benthic sled sampling to ground-truth the side-scan images and to describe the sediment characteristics and biotic communities in the general vicinity of the proposed extension. This report describes the methods and results of the survey, and comments on the likely level of benthic impact resulting from the proposed changes to the site boundaries.

2 Methods

Side-scan sonar is an efficient and reliable method of comprehensively surveying the seabed topography in order to detect three-dimensional features of interest such as bedrock reef or biogenic habitats. Side-scan sonar swaths, each 100 m wide (50 m either side of the vessel) were made through the proposed extension and adjacent area using a high-frequency (675 kHz) Triton towfish. The position of the side-scan sonar was automatically recorded every two seconds along each swath from a GPS and saved in real time to a laptop on board the vessel using SeaNet Pro software. Data were post-processed with Triton Perspective software to produce geo-referenced images that could be depicted in maps produced using ArcGIS software (ArcGIS 10.3.1).

Four benthic grab (bite area ca 0.13 m², maximum bite depth 22 cm) samples and three benthic sled (mouth width 600 mm, mesh size 2 mm) samples were obtained to describe substratum physical characteristics, and infaunal and epifaunal species assemblages within and adjacent to the proposed extension (Figure 2-1). All grab sample locations and sled tracks were located and recorded using a handheld Garmin GPS unit.

The survey was carried out on 10 and 11 August 2017, led by NIWA staff with assistance from NRF personnel aboard a NRF vessel.

2.1 Substratum and sediment

Sediment physical characteristics were determined from grab samples obtained at each sample station. From each grab sample, a single core (5 cm diameter) sub-sample was taken to 10 cm depth, and the sediment appearance was noted. The top 3 cm of each core was retained and transported to the laboratory for analysis of sediment grain size.

Grain-size distribution was determined gravimetrically by oven drying each sediment sample at 100 °C overnight and washing the weighed sample through stacked 200 µm and 63 µm sieves. The fraction retained on each sieve was dried and weighed and the weight of material passing the 63 µm sieve obtained by subtraction from the original weight. Dry weights for each fraction (mud, sand and gravel) were expressed as percentages of the total dry weight.

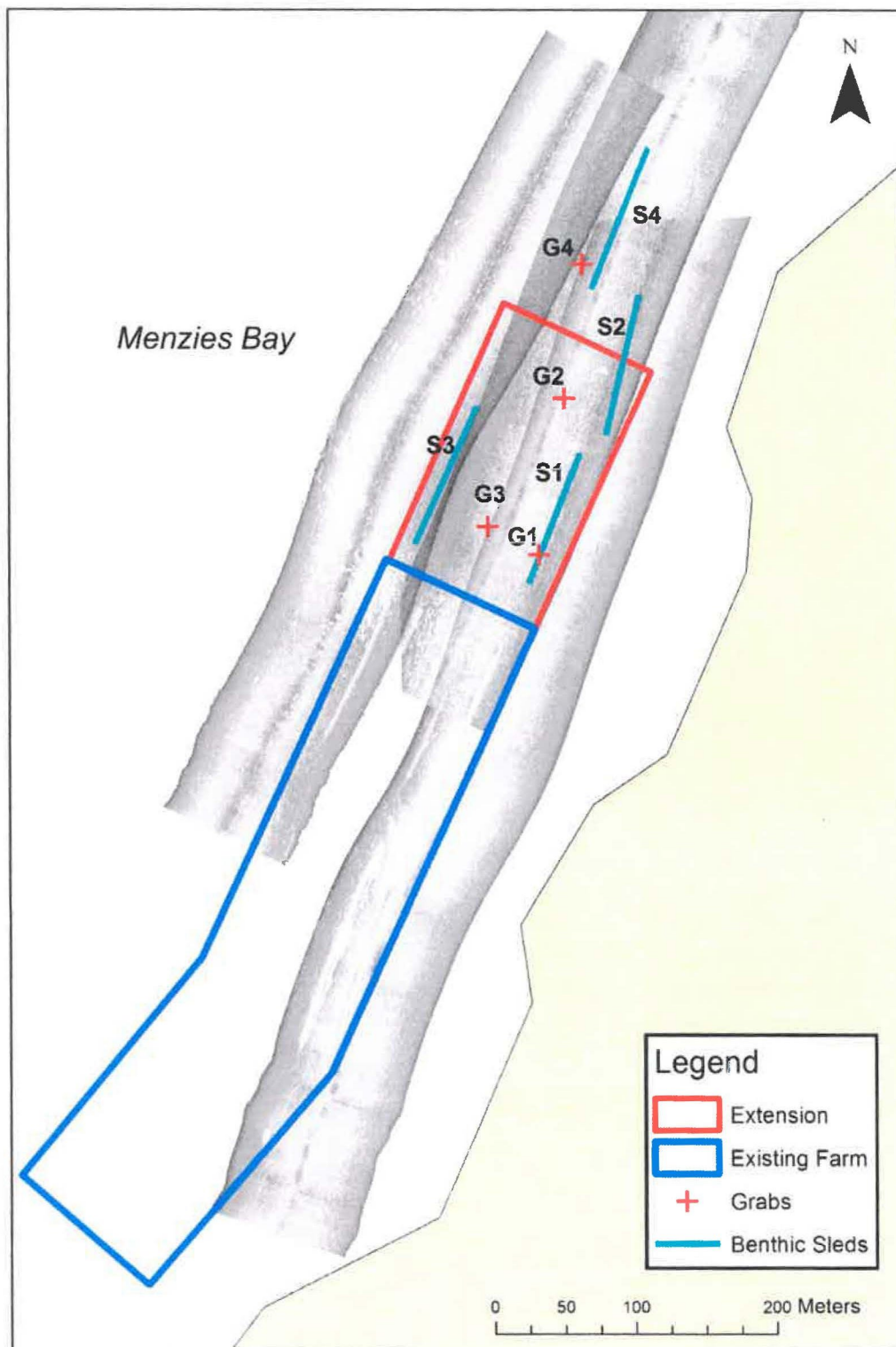


Figure 2-1: Site map showing sample locations. Grey bands are side-scan swaths.

2.2 Faunal assemblages

To sample the infaunal community (small-bodied animals living within the sediment), a single sediment core (15 cm diameter x ~10 cm deep) was subsampled from each grab sample. The contents were transferred to a mesh bag (mesh size 0.1 cm) and sieved by gently washing the bag in seawater. Following sieving, the infaunal samples were preserved in a solution of 70 per cent ethanol and transported back to the NIWA lab for taxonomic identification and counting.

A benthic sled was used to sample the assemblage of conspicuous benthic epifauna (large bodied sediment surface-dwelling species). Only semi-quantitative data were obtained using this method. After each sled tow (tow length approximately 100 m), sediments were rinsed from the sled contents and the macrofauna retained within the 0.2 cm mesh of the sled was preserved in 70 per cent seawater and returned to the NIWA laboratory for sorting. Only large-bodied sediment surface-dwelling species retained by a 0.5 cm mesh during the sample sorting process were included in the analysis.

3 Results

3.1 Seabed substratum and sediment

Analysis of the side-scan sonar swaths revealed that the seabed beneath the proposed extension area was relatively featureless soft sediment (Figure 3-1).

Sediment within all samples from all stations was brown/grey (e.g., Figure 3-2), which is indicative of well oxygenated sediment. Similarly, none of the samples exhibited any strong sulphurous or 'rotten egg' smells associated with highly organically-enriched sediments.

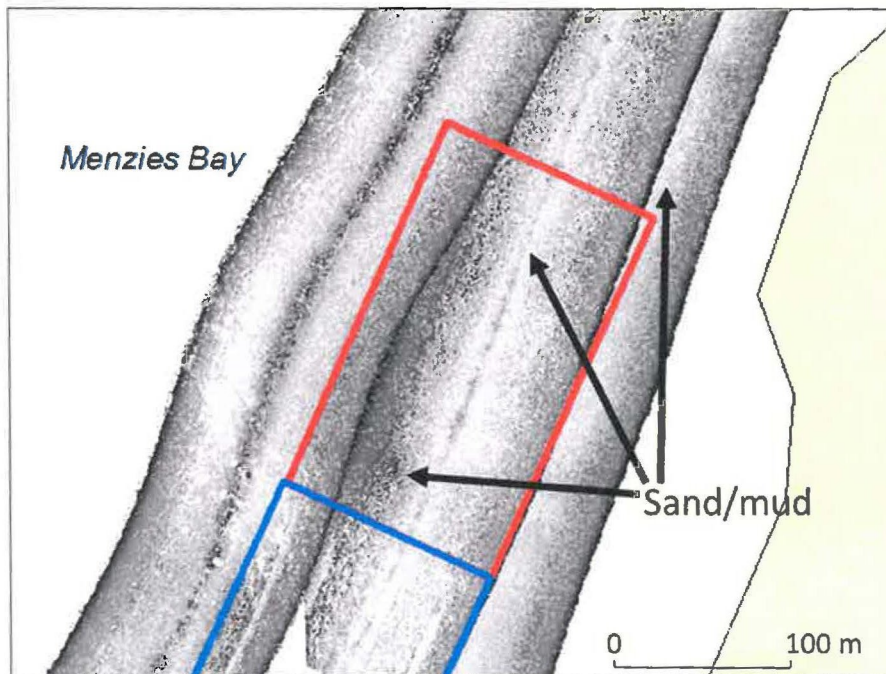


Figure 3-1: Detail of sidescan sonar images showing relatively featureless seabed in the vicinity of the extension site.

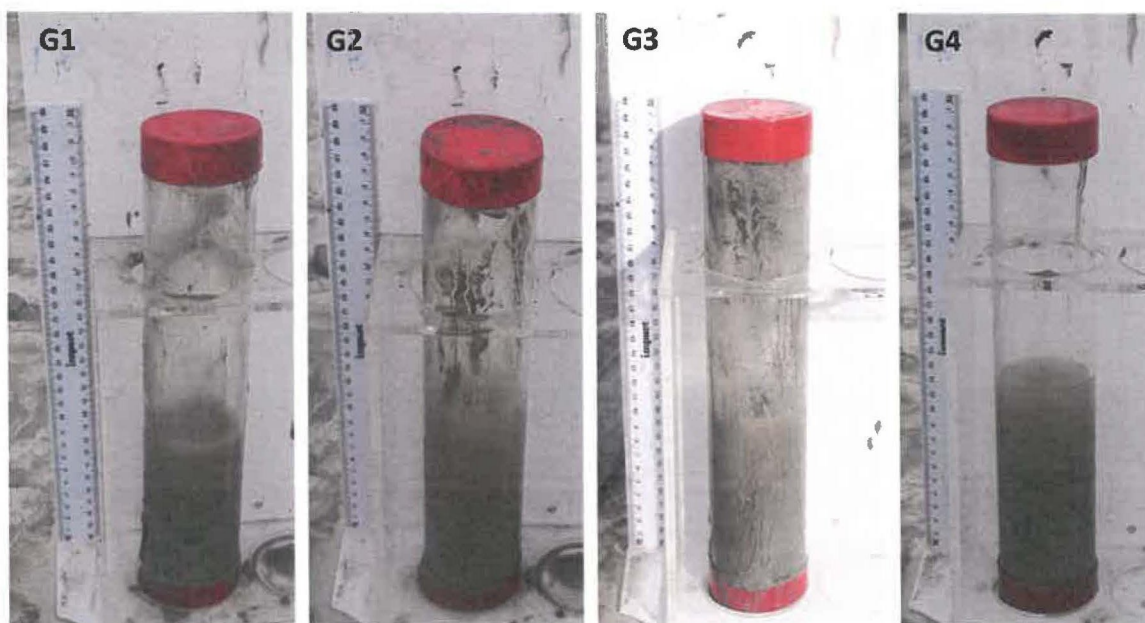


Figure 3-2: Sediment samples from each grab station.

3.2 Sediment grain size

Sediments were composed of varying proportions of sand (particle size 63-200 μm) and mud (particle size < 63 μm), with a very small (<5%) component of gravel (Figure 3-3).

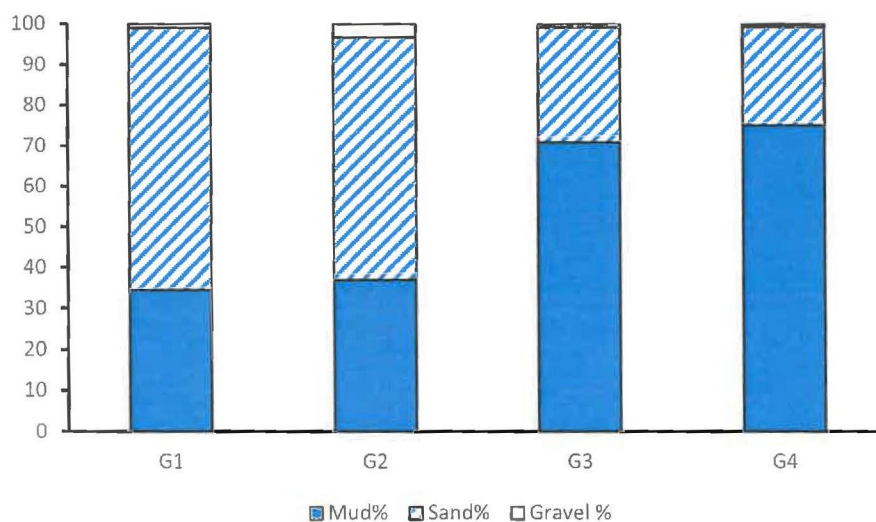


Figure 3-3: Percentage of each sediment grain size fraction in samples from each station.

3.3 Benthic species assemblage

A total of 39 separate taxa was identified to the greatest practical taxonomic resolution in sled and grab samples (Table 3-1 and Appendix A).

3.3.1 Infauna

26 different taxa were identified from the infauna (Appendix A). The most commonly occurring infaunal species were the stalk-eyed mud crab (*Hemiplax hirtipes*), the spire shell (*Stiracolpus symmetricus*), and representatives from several families of polychaete worm (e.g., Maldanidae, Trichobranchidae and Ampharetidae). Figure 3-4 shows the number of taxa (taxonomic richness), and Figure 3-5 shows the density of individual animals (abundance) within samples at each grab station.

The mean values for the number of taxa per sample (12.25 ± 4.06) and the number of individuals per m^2 (2443 ± 1251) are within the range of mean values (7.7 to 13.33 taxa per sample, and 341 to 2670 individuals per m^2) obtained in a previous benthic survey conducted in the vicinity of the same farm site (Brown 2017).

3.3.2 Epifauna

The relative abundances of epifaunal taxa larger than 0.5 cm are presented in Table 3-2. The dominant epifaunal species were the spire shell (*Stiracolpus symmetricus*) and the stalk-eyed mud crab (*Hemiplax hirtipes*). The shrimp (*Periclimenes yaldwyni*) was also common. Epifauna sampled in the dredge tows were all taxa commonly found in Menzies Bay and in the vicinity of the eastern bays around Banks Peninsula.

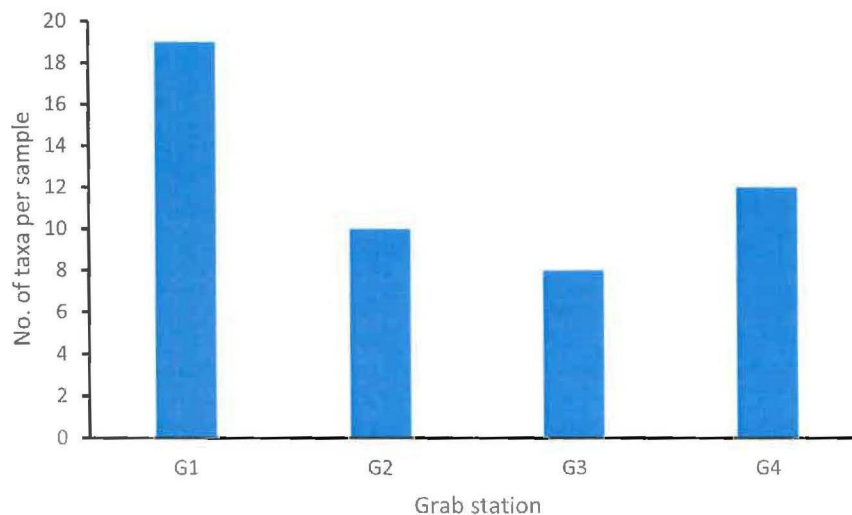


Figure 3-4: Number of infaunal taxa (taxonomic richness) at each grab station.

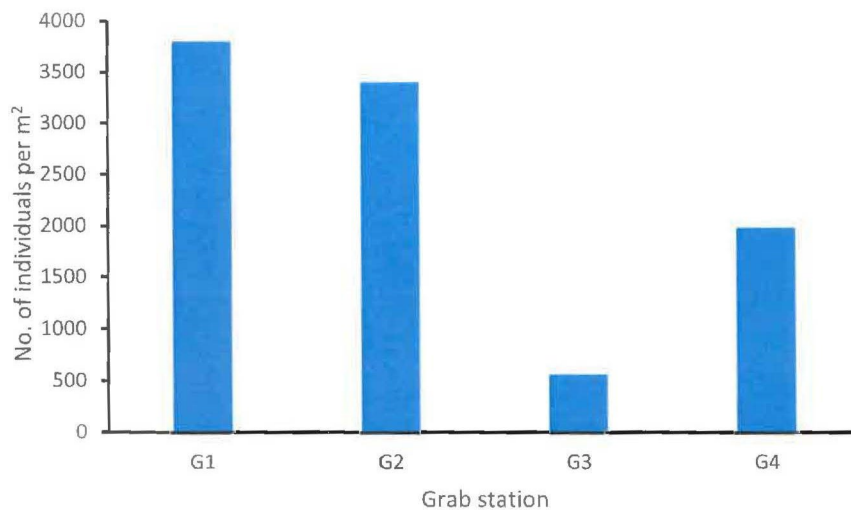


Figure 3-5: Density of infaunal individuals at each grab station.

Table 3-1: Abundances of large-bodied epifauna in each sled sample.

| Taxon | Common name | S1 | S2 | S3 | S4 |
|--|---------------------|----|----|----|----|
| Amphipoda | amrhipod | 1 | 1 | 1 | |
| <i>Ebalia laevis</i> | crab | | 1 | | |
| <i>Halicarcinus</i> sp. | spider crab | | 1 | | 2 |
| <i>Hemiplax hirtipes</i> | stalk-eyed mud crab | | 2 | 6 | 1 |
| <i>Notomithrax</i> sp. | camouflage crab | 1 | | 1 | |
| <i>Periclimenes yaldwyni</i> | shrimp | 9 | 4 | 1 | 2 |
| <i>Pontophilus australis</i> | shrimp | | 9 | 1 | |
| <i>Tenagomysis longisquama</i> | shrimp | 1 | | | |
| <i>Corella eymyota</i> | sea squirt | | | | 3 |
| <i>Patiriella</i> sp. | cushion star | | 1 | 1 | |
| <i>Heterothyone alba</i> | sea cucumber | | | 1 | |
| <i>Corbula zelandica</i> | bivalve | 1 | | | |
| <i>Dosina mactracea</i> | bivalve | 2 | 1 | | 1 |
| <i>Penion sulcatus</i> | cooks turban | | | | 1 |
| <i>Sigapatella</i> sp. (possibly <i>spadicea</i>) | slipper limpet | | 1 | | |
| <i>Stiracolpus symmetricus</i> | spire shell | | 2 | 25 | 6 |

4 Discussion

The seabed in the vicinity of the extension was generally uniform, and the side-scan swath mapping did not detect any prominent three-dimensional features. The soft sediment substratum was comprised of sand and mud, and the appearance and smell of the sediment did not indicate any excessive organic enrichment.

The infaunal species assemblages were typical of the soft sediment habitat in embayments on the northeastern side of Banks Peninsula (e.g., Brown 2017, Brown 2012a, b) and epifaunal taxa sampled were also common and widespread.

No features of special conservation, scientific, or ecological value were detected by the survey in the vicinity of the proposed extension. The effects on the benthos from the proposed farm extension will be deposition of mussel faeces and pseudofaeces, some accumulation on the seabed of mussels and other organisms dropping from the mussel longlines, and changes in the composition of the seabed faunal communities beneath the mussel lines. The results of numerous studies have shown that benthic effects from mussel farming are usually only minor to moderate in magnitude (e.g., Keeley et al 2009). The effects of deposition are likely to be moderated and dispersed to some extent by currents and wave energy produced by periodic weather events that can effect semi-exposed embayments on the northeastern side of Banks Peninsula (e.g., Hadfield 2012, pers. obs. author, pers. obs. Sam Helps (skipper of MV St. George)). Thus the ecological effects of extending the mussel farm into the proposed area are likely to be no more than minor.

5 Acknowledgements

Thanks to Sam Helps (skipper of MV St George), Leigh Tait, Lily Pryor-Rogers, Andrew Miller, and Louis Olsen (NIWA) for conducting the field sampling, Megan Carter and Anna Bradley (NIWA) for taxonomic expertise, and Sean Handley (NIWA) for reviewing this report.

6 References

- Brown, S. (2012a) Benthic monitoring survey for marine farm permit CRC011429 in Big Bay, Banks Peninsula. Report prepared for Pigeon Bay Aquaculture Ltd. *NIWA Client Report*, NEL2012-020. 17 p.
- Brown, S. (2012b) Benthic monitoring survey for marine farm permit CRC001853 near Scrubby Bay, Banks Peninsula Report prepared for Ocean Marine Farms Ltd. *NIWA Client Report*, NEL2012-019. 16 p.
- Brown, S. (2017) Benthic Monitoring Survey for Marine Farm Permit CRC122028: Menzies Bay, Banks Peninsula. Report prepared for Nelson Ranger Fishing Company Ltd. *NIWA Client Report*, 2017339NE. 19 p.
- Hadfield, M. (2012) Freshwater transport and dilution in Canterbury Bight. Report prepared for Environment Canterbury. *NIWA Client Report*, WLG2011-54. 39 p.
- Keeley N., Forrest, B., Hopkins, G., Gillespie, P., Clement, D., Webb, S., Knight, B., Gardiner, J. (2009) Sustainable Aquaculture in New Zealand: Review of the ecological effects of farming shellfish and other non-fish species. Ministry of Fisheries, Cawthron Report 1476. 150 p. Plus appendices.

Appendix A Infauna taxa and abundance

| Group | Taxon | G1 | G2 | G3 | G4 |
|--------------------------------|--------------------------------|----|----|----|----|
| Polychaeta | Ampharetidae | 4 | 1 | 1 | 1 |
| Polychaeta | Capitellidae | 2 | | | |
| Polychaeta | Chaetopteridae | 1 | 50 | | |
| Polychaeta | Cossuridae | | | | 2 |
| Polychaeta | Glyceridae | | | 2 | |
| Polychaeta | Lumbrineridae | 5 | | 1 | 4 |
| Polychaeta | Maldanidae | 20 | | 1 | 7 |
| Polychaeta | Opheliidae | 2 | | 1 | |
| Polychaeta | Orbiniidae | 1 | | 1 | |
| Polychaeta | Oweniidae | | 1 | | 3 |
| Polychaeta | Polynoidae | | | | 1 |
| Polychaeta | Sigalionidae | 1 | | | |
| Polychaeta | Spionidae | | | 1 | |
| Polychaeta | Trichobranchidae | 3 | 1 | | 5 |
| Polychaeta | Phyllodocidae | 1 | | | |
| Decapoda | <i>Hemiplax hirtipes</i> | 2 | 1 | 2 | 2 |
| Malacostraca | Amphipoda | 15 | 2 | | 6 |
| Malacostraca | Cumacea | 1 | | | |
| Ostrocooda | Ostracod | 1 | | | |
| Bivalvia | <i>Divalucina cumingi</i> | | 1 | | |
| Bivalvia | <i>Leptomya</i> sp. | | 1 | | 1 |
| Bivalvia | <i>Nucula nitidula</i> | 1 | | | 1 |
| Bivalvia | <i>Theora lubrica</i> | 2 | 1 | | |
| Bivalvia | Unidentified bivalve (damaged) | 1 | | | |
| Gastropoda | <i>Xymene plebeius</i> | 1 | | | |
| Gastropoda | <i>Stiracolpus symmetricus</i> | 3 | 1 | | 2 |
| Richness (no. of taxa) | | 19 | 10 | 8 | 12 |
| Abundance (no. of individuals) | | 67 | 60 | 10 | 35 |